

st. lawrence columbia and metals corporation annual report 1971

(NO PERSONAL LIABILITY)

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officers

board of directors

President:
Jean-Joffre Gourd, Q.C.

*Vice-President and General
Counsel:*
Jean Monette, Q.C.

Vice-President Administration:
Edmond Pontbriand, Eng.

Vice-President Mining:
Laurent Ferland, Eng.

Secretary-Treasurer:
Richard Staines, C.A.

Assistant to the President:
Suzanne Lefebvre

**Eugene Defauw/Industrialist,
Brussels, Belgium*

Michel Fournier
Banque de l'Indochine, Paris,
France

Jean-Joffre Gourd, Q.C.
Advocate, Montreal

Jean Monette, Q.C.
Advocate, Montreal

Peter N. Thomson
Executive, Montreal

J. Emerson Thors
Kuhn, Loeb & Co., Investment
Bankers, New York

Henry J. Wolff
Chadbourn, Parke. Whiteside &
Wolff, Attorneys, New York

**We regret to inform you that
Mr. Eugene Defauw passed away
on January 7, 1972. His loss will
be deeply felt by the Board and
the company.*

Executive Offices:
Dominion Square Building
1010 St. Catherine St. W., Montreal
110, Quebec, Canada

Mine Office:
Oka, Quebec

Bankers:
Canadian Imperial Bank of
Commerce

Capital Stock:
Authorized: 5,000,000 common
shares
Issued and paid up: 3,053,016
shares
Shares listed:
Canadian Stock Exchange,
Montreal
Transfer Agent:
Canada Permanent Trust Company,
Montreal and Toronto

to the shareholders



Your directors are pleased to report that following a period of depressed market conditions for columbium during 1971, in line with the recession experienced by the whole mining industry, there has been a gratifying turnaround and a marked increase in demand for your company's products. This has been accompanied by a firming of prices earlier this year, an improvement which started to benefit us only lately.

Since this change became apparent, your management has intensified its sales efforts and I am pleased to report that we have been successful in securing fair-sized orders for our products at substantially higher prices than those that prevailed last year and have extended our worldwide sales network.

The outlook for the remainder of the year is for a continuation of the upward trend.

These encouraging developments do not, however, compensate for the unfavorable results of operations for the year ended September 30, 1971, when a loss of close to \$270,000 was experienced. Detailed information on financial results, operations and new developments is provided in the Review of the Year which follows this report. I feel, however, that it would be useful to highlight some of the points made in the Review.

The drop in demand and prices for columbium in 1971 was due to a build-up of excessive inventories by metal dealers and end-users, in spite of a continuing trend to higher consumption of columbium throughout the period of lower activity in the steel industry across the world.

This worldwide over-supply forced your company, as well as other columbium producers to drastically reduce production. Surplus inventories were liquidated and we have now returned to a normal supply-demand market with prices back to the healthier levels of 1970.

Measures taken by the producers to provide more accurate consumption statistics, and, as far as your company is concerned, more direct contacts with end-users of columbium will, we believe, contribute to a more stable market. In order to assure a flow of additional information on supply and consumption of columbium, Companhia Brasileira de Metalurgia e Mineração and your company have agreed to retain Battelle Research Institute to provide these statistics on a continuing basis.

During the enforced low output period, St. Lawrence Columbium increased its R & D efforts. Among positive results obtained, a new concentration process was developed, which will increase the efficiency of your company's mill and improve the recovery of columbium pentoxide contained in the ore. This research activity was supported by a Canadian government grant under the

Program for the Advancement of Industrial Technology (PAIT). The implementation of this process has already started in your company's mill.

To further increase its profitability and strengthen its competitive position, your company has taken steps to increase production of ferro-columbium (and other ferro-alloys), following the trend towards greater use of ferro-columbium as an alloying additive in the production of low-alloy steels. This development will bring us in a more direct contact with end-users; we shall, however, at the same time maintain our present policy of selling concentrates to converters.

Furthermore, as a result of laboratory experiments, your company is intensifying its efforts towards production and marketing of by-products of the milling operation. The proximity of the Oka plant to the Montreal area puts your company in a unique position to market these products competitively.

With some 6.5 million tons of proven ore reserves, an improved mill efficiency and expectations for increased usage of columbium, your company can look forward to improved sales and earnings in the current year.

On behalf of the Board

A handwritten signature in dark ink, appearing to read 'J. J. Gourde'.

J.J. Gourde
President

May, 1972

company profile

St. Lawrence Columbium and Metals Corporation, a publicly-owned company, is the only primary producer of columbium concentrates in North America. Its annual milling capacity, currently about 700,000 tons of ore per year (2000 tons per day), can be increased to 850,000 tons (2500 tons per day) with only minor additions to present crushing and milling equipment. Capacity can further be increased through additional capital investment, as and when justified by market developments. With the implementation of a new mill concentration process, it is expected that the yield will increase substantially.

Based on R & D results and market indications, St. Lawrence Columbium has initiated a major integration program which will include the production of a greater part of mine output in the form of ferro-columbium, increased production of ferro-alloys, a wide range of by-products and the possible retreatment of accumulated mill tailings. As a result of this program, it is anticipated that the company's volume of business will increase substantially.

St. Lawrence Columbium is active in exploration and development through subsidiaries and affiliated companies which are involved in projects covering such metals as copper, silver, zinc and iron ore.

St. Lawrence Columbium was formed by merger in 1960 and started production in 1961 at its Oka mine. Since that time, it has established itself as one of the world's two primary producers of columbium concentrates.

There are close to 3500 shareholders. The shares are listed on the Canadian Stock Exchange.

comparative summary

	fiscal years ended september 30				
	1971	1970	1969	1968	1967
Tons milled	408,500	724,345	475,201	360,194	369,642
Value of production	\$2,676,547	5,310,634	3,107,514	1,966,937	2,799,982
Cost of production	\$2,320,987	3,417,707	2,450,469	1,614,581	2,170,411
Administrative and selling expenses, interest and mining duties	\$ 321,485	335,920	219,464	228,187	286,771
Profits before depreciation and amortization	\$ 33,166	1,557,007	437,580	124,169	342,799
Depreciation and amortization	\$ 302,377	499,930	332,220	256,511	323,505
Net profit (loss) for the year	\$ (269,211)	1,057,077	105,360	(132,342)	19,294
Net profit (loss) per share	(9¢)	34.6¢	3.5¢	(4.3¢)	0.6¢

balance sheet as at september 30

assets

	1971	1970
CURRENT ASSETS		
Cash	\$ 129,916.90	\$ 190,609.95
Term Deposits and Accrued Interest thereon	—	350,774.66
Receivables less Reserve for Bad Debts	308,734.65	816,561.35
Finished Products at Estimated Selling Price	166,864.19	149,780.32
Mining Supplies at Cost	238,325.20	227,906.33
Prepaid Expenses	21,340.91	9,775.11
	865,181.85	1,745,407.72
DEFERRED		
Development Expenses — Lease on Main Oka Mining Corporation Property	144,141.94	96,863.39
Development Expenses on Other Properties	67,206.40	67,206.40
Interest	4,129.60	—
	215,477.94	164,069.79
INTEREST IN MINING COMPANIES		
Shares at Cost (No Quoted Market Value)	973,850.38	973,850.38
Advances	324,424.13	319,181.67
	1,298,274.51	1,293,032.05
FIXED ASSETS AT COST		
Land and Buildings	988,889.74	939,053.48
Shaft, Machinery, Equipment and Furniture	4,252,974.84	3,694,663.11
	5,241,864.58	4,633,716.59
Less: Accumulated Depreciation	2,541,248.52	2,235,300.81
	2,700,616.06	2,398,415.78
Mining Properties	1,945,857.72	1,945,857.72
	4,646,473.78	4,344,273.50
Incorporation and Organization Expenses	7,058.19	7,058.19
	\$7,032,466.27	\$7,553,841.25

Approved on Behalf of the Board of Directors

J.-J. Gourd, Director

J. Monette, Director

liabilities

	1971	1970
CURRENT LIABILITIES		
Bank Loan	\$ 240,000.00	\$ —
Accounts and Wages Payable and Accrued Charges	240,494.83	576,963.20
Instalments on Equipment Maturing within One Year	17,252.40	—
Mortgage Secured Loan 8% Interest		
Quarterly Instalments Maturing within One Year	45,000.00	45,000.00
Instalment due April 1, 1971 on Purchase of Assets (no Interest)	—	50,000.00
Note due September 30, 1971 6½% Interest	—	28,941.61
Provision for Quebec Mining Duties	—	63,383.19
	542,747.23	764,288.00
OTHER LIABILITIES		
Instalments on Equipment not Maturing within One Year	14,377.20	—
Mortgage Secured Loan 8% Interest Payable by Quarterly Instalments of \$11,250, less Instalments Maturing within One Year.	56,250.00	101,250.00
Loan from Directors due January 1, 1974, 6½% Interest	197,850.17	197,850.17
	\$ 268,477.37	\$ 299,100.17

shareholders' equity

CAPITAL STOCK (Note)		
Authorized:		
5,000,000 Shares \$1.00 Par Value Each	\$5,000,000.00	\$5,000,000.00
Issued and Paid Up:	\$3,053,016.00	\$3,053,016.00
3,053,016 Shares	463,250.00	463,250.00
Premium	3,516,266.00	3,516,266.00
CAPITAL SURPLUS	1,947,954.34	1,947,954.34
EARNED SURPLUS	757,021.33	1,026,232.74
	6,221,241.67	6,490,453.08
	\$7,032,466.27	\$7,553,841.25

Submitted with our report of December 22, 1971
 Denis, Desmarais, Houle, Mooney et Associés.

profit and loss statement

for the year ended September 30

	1971	1970
VALUE OF PRODUCTION	\$2,676,547.29	\$5,310,634.14
Less:		
Cost of Production	2,320,987.65	3,417,706.65
Administrative and Selling Expenses	298,788.54	249,407.52
Financial Expenses	22,697.00	22,222.50
Outside Exploration	907.63	907.63
	2,643,380.82	3,690,244.30
OPERATING PROFIT	33,166.47	1,620,389.84
Less:		
Depreciation on Fixed Assets	302,377.88	427,495.35
Amortization of Pre-Production Expenses on Oka Properties	—	72,434.50
	302,377.88	499,929.85
NET PROFIT BEFORE TAX (Loss)	(269,211.41)	1,120,459.99
Less:		
Estimated Quebec Mining Duties	—	63,383.19
NET PROFIT FOR THE YEAR (Loss)	\$(269,211.41)	\$1,057,076.80
NET PROFIT PER SHARE (Loss)	(8.8¢)	34.6¢

statement of earned surplus

BALANCE AS AT PREVIOUS SEPTEMBER 30	\$1,026,232.74	\$ 237,370.27
Add:		
Net Profit for the Year (Loss)	(269,211.41)	1,057,076.80
Less:		
Pre-Production Expenses on Oka Properties not Previously Amortized	—	268,214.33
BALANCE AS AT SEPTEMBER 30	\$ 757,021.33	\$1,026,232.74

NOTE TO FINANCIAL STATEMENTS AS AT SEPTEMBER 30, 1971

The following options to purchase shares of the capital stock of the Company were outstanding to various employees:

- 1) 12,800 shares at a price of \$2.50 per share expiring on October 1, 1971.
- 2) 14,000 shares at a price of \$2.50 per share expiring on October 1, 1974.
- 3) 8,000 shares at a price of \$3.00 per share expiring on October 1, 1975.
- 4) 15,000 shares at a price of \$3.00 per share expiring on January 1, 1976.

statement of source and application of funds

for the year ended September 30

FUNDS PROVIDED	1971	1970
Operating Results		
Consisting of:		
Net Profit for the Year (Loss)	\$ (269,211.41)	\$1,057,076.80
Depreciation and Amortization Charges		
not Requiring Cash Outlays during the Year	305,947.71	503,861.95
Issue of Company's Shares	—	10,750.00
	\$ 36,736.30	\$1,571,688.75
FUNDS APPLIED		
Additions to Fixed Assets	\$ 608,147.99	\$ 562,952.92
Pre-Production Expenses — On Property		
leased from Main Oka Mining Corporation	47,278.55	96,863.39
Advances to Subsidiary Companies	5,242.46	6,511.08
Long Term Debt	30,622.80	123,941.61
Deferred Interest	4,129.60	—
	695,421.40	790,269.00
Resulting Effect on Working Capital	(658,685.10)	781,419.75
	\$ 36,736.30	\$1,571,688.75

AUDITORS' REPORT TO THE SHAREHOLDERS OF ST. LAWRENCE COLUMBIUM AND METALS CORPORATION

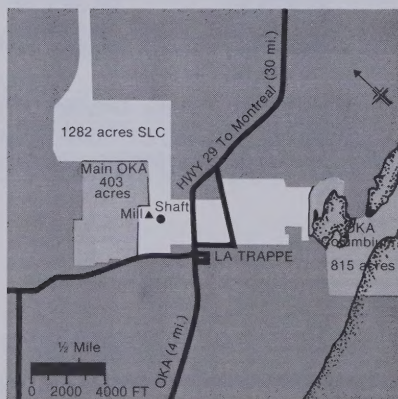
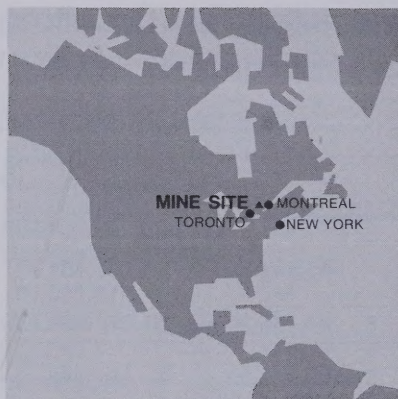
We have examined the balance sheet of St. Lawrence Columbiu and Metals Corporation as at September 30, 1971 and the statements of profit and loss and earned surplus for the year ended on that date. Our examination included a general review of the accounting procedures and such tests of accounting records and other supporting evidence as we considered necessary in the circumstances.

In our opinion, the accompanying balance sheet, statements of profit and loss and earned surplus and the note attached to the financial statements, present fairly the financial position of the Company as at September 30, 1971 and the results of its operations for the year ended on that date, in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Denis, Desmarais, Houle, Mooney et Associés.

Montreal, December 22, 1971.

review of the year



Property held directly by SLC
 Properties held indirectly through subsidiary companies

FINANCIAL

Total net sales for the year ended September 30, 1971, amounted to \$2,780,250 compared to \$5,388,891 in the previous record year, fiscal 1970. The decrease is the direct result of our effort as a major producer to eliminate excess inventories built-up by the industry during the years 1969 and 1970.

Value of production during the fiscal year was reduced to \$2,676,547 from the record figure of \$5,310,634 for 1970 and this contributed directly to a net loss of \$269,211 as against a net profit of \$1,057,077 for the previous year.

The company had an operating profit of \$33,166 which, however, was not sufficient to cover depreciation charges of \$302,377. Drastic measures had to be implemented during the year in order to attain this operating profit, particularly in view of higher costs of labour, materials and services as well as lower selling prices. The results reflect the difficult market conditions under which the metal industry operated during 1971 when activities in the steel industry were reduced and there was a general trend towards inventory liquidation.

In addition, the loss of the dollar exchange premium on metal sales, traditionally made in U.S. dollars, showed its full impact in fiscal 1971, whereas in 1970 it affected only the last four months of the fiscal year.

OPERATIONS AT OKA MINE

During fiscal 1971, the Oka mill treated some 408,500 tons of ore. The average milling rate was 34,000 tons per month, or 1730 tons per day for 236 days of operation.

The year 1971 was one of major progress in our mill concentration techniques and processes. With the support of a PAIT (Program for the Advancement of Industrial Technology) assistance grant from

the Canadian Government, the company was able to bring earlier laboratory research efforts for the development of a new concentration process to the point of implementing it in a parallel circuit with the intention of switching to the complete circuit after a trial period. Tests indicate that a substantial improvement can be achieved in the recovery of the Cb_2O_3 contained in the ore and that the cost of reagents should be lower in the new process than in the one used up to the present. The necessary additional equipment for this circuit is now being installed.

After the trial period, it is also intended to attempt retreatment of the mill tailings accumulated since the beginning of operations. In management's estimation, these tailings contain a minimum of twelve million pounds of Cb_2O_3 . The production of a high grade calcite, which makes up approximately 75% of the company's ore and for which there are interesting market possibilities, will also be facilitated by the new process.

Ore Development: At the end of the year, the company was in a favorable operating position with 1.5 million tons of developed ore. Of this, 400,000 tons is ready for blasting.

The mine shaft was deepened to 1922 feet during the period August, 1970 to April, 1971 in order to give access to the part of the orebodies below the 1000-ft. level. The company is pursuing a minimal work program to complete access to this ore which will be readied for development and mining as and when required.

Development work is being completed above the 1000-ft. level. During the past fiscal year, the underground development towards the Main Oka property was pursued at two different levels of operation. At the 1000-ft. level, an additional 395 feet of drift was completed with the wall face now approximately 200 feet from the

Development statistics

Work completed during fiscal year (in feet)	1971	1970	1969	1968
Drifts 10' x 12' or larger:	2572	6204	3934	1432
Sub-level drifts and cross-cuts:	890	4502	2954	2085
Raises:	973	2235	2428	2103

The reduction in development work from 1969 and 1970 levels was a result of the lower rate of mining caused mainly by lower market requirements.

Main Oka orebody. At the 500-ft. level, some 412 feet of drift was completed. Since the beginning of the current fiscal year, a further 350 feet was done and the wall face is now approximately 450 feet from the orebody.

Reserves: Some 18,053 feet of diamond drilling was carried out during the year, of which 11,656 feet served to better define the main orebody below the 1000-ft. level. The remainder of drilling was aimed at exploring various sections of the orebody.

After mining some 408,500 tons of ore during the fiscal year, the proven reserves above the 1000-ft. level stood at 2,041,000 tons grading 0.48% Cb_2O_5 . The proven reserves below the 1000-ft. level and above the 1830-ft. level, stood at 3,400,000 tons of ore, grading 0.49% Cb_2O_5 .

Combined with the one million tons on the Main Oka orebody above the 1000-ft. level, this makes a total of 6,441,000 tons of proven reserves, without taking into consideration other ore indications on the remainder of the property and on the properties of Oka Columbium and Main Oka not accessible at present. With these proven reserves, your company sees no immediate need for production purposes, to invest in defining and compiling indicated ore, as in the case of mining prospects where as much ore indications as possible are needed before production can be considered.

Underground exploratory diamond drilling above the 1000-ft. level is aimed at testing and proving parallel zones indicated by

diamond drilling carried out while deepening the shaft.

The favorable results obtained to date from the drilling at depth have given further assurance that the tonnage of reserves in the second 1000 feet of the orebodies currently being mined will be comparable to the tonnage found to date in the first 1000 feet.

MARKETING, PRODUCT DEVELOPMENT

As indicated in the accompanying chart, the consumption of columbium concentrates in the western world continued to grow in 1971 in spite of a generally lower level of activity in the steel industry. This trend is confirmed by the U.S. Bureau of Mines statistics which point to an increase of 11% in columbium consumption for steelmaking in the U.S.A., in spite of a production drop in steel of 10%. The trend applies also to Germany, where consumption increased by 12% in spite of a production drop in steel of 11%.

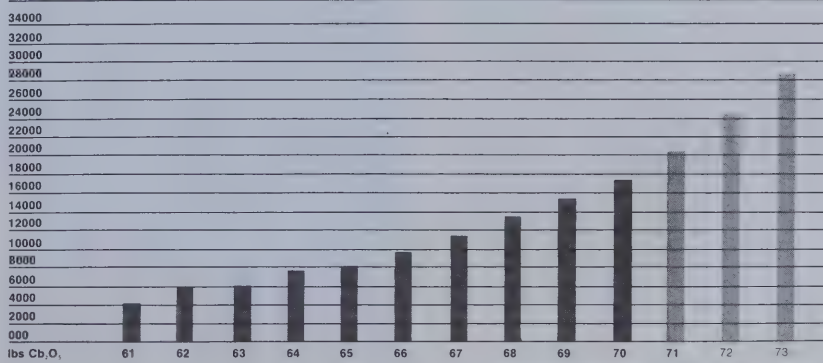
The drop in demand and prices for columbium in 1971 was due to a built-up of excessive inventories by metal dealers and end-users. Producers had to reduce output accordingly in order to permit the liquidation of surplus inventories accumulated in the industry during the years 1969-70.

This inventory liquidation is now completed and St. Lawrence Columbium has entered the calendar year 1972 with normal or sub-normal inventories in the trade. As a result, there has been a strong pick up in demand since the beginning of the year and concurrently, a rapid firming-up of prices.

In order to avoid over-production in the future, measures have been taken by producers to provide more accurate consumption statistics and the two major producers, Companhia Brasileira de Metalurgia e Mineração (CBMM) and St. Lawrence Columbium, have agreed to retain Battelle Research Institute to compile statistics on columbium demand and supply. This information will facilitate adjustment of production to realistic consumption forecasts.

Avoiding over-supply conditions and creating a disciplined market will prove beneficial to both producers and consumers alike.

columbium (NIOBIUM)
consumption curve
(non-communist world)



Ferro-alloy Output: The year 1971 confirmed strongly the earlier trend towards increased usage of columbium for steelmaking. It is now evident that even though columbium will continue to be used as pure metal for high technology applications, the major increase in demand will come from the steel industry, mostly in the form of ferro-columbium.

In order to meet this increasing demand for ferro-columbium, St. Lawrence Columbium has increased its ferro-alloy production. Plans are presently being finalized for the construction of new facilities which will permit the company to supply the Canadian, U.S. and other appropriate markets with ferro-columbium in addition to columbium concentrates. This is a major step in the continuing progress of your company, and should consolidate its position in the North American market by permitting us to deal directly with the end-users of our products, i.e. the steel companies. The new facilities will also permit production of other types of ferro-alloys.

Marketing: Considerable progress has been achieved during 1971 towards the development of a worldwide sales and distribution network in order to take maximum advantage of the increasing demand for your company's products, especially in steelmaking applications.

St. Lawrence Columbium is finalizing plans with other producers for the formation of institutions which would promote the use of columbium products through out the world. The company is also working with the Ecole Polytechnique de Montreal, towards the creation of a "Columbium Documentation Service" to provide actual or potential users of columbium with up-to-date bibliographical information on the techniques of production and utilization of columbium, its alloys and compounds.

The creation of these facilities is intended to place columbium on the same footing as other major metals such as copper, tin and cobalt for which information services are available in one form or another.

Working closely with the world's major producers of ferro-alloys and of metals complementary to columbium in the production of steel, the company has intensified its own product development and technical promotion activities.

The beneficial effects of this new marketing approach are already apparent in the growing usage of columbium. In a recent article in Engineering/Mining Journal, Dr. F.H. Buttner of the Battelle Memorial Institute, predicted that columbium consumption would grow by at least one order of magnitude (10 times) within the next five years.

By-Products Research: Concurrent with research work on the new process, your company started a research and development program on the treatment of mill tailings for the separation of the following by-products from the columbium milling operation:

High Purity Calcite (CaCO_3): This makes up some 75% of the company's ore. The main uses of this product, or products manufactured from calcite, would be as acid soil neutralizer for farm land, and lime for the steelmaking and pulp and paper industries. In this connection, the increasing use of lime in the basic oxygen furnaces (BOF) is creating a promising market for calcite.

Apatite: This makes up to 5% of the ore and could possibly be sold as such or used to recover rare earth oxides for production of rare earth compounds (silicides or mishmetal). From our apatite, we could also recover phosphates for the production of fertilizers or phosphoric acid, and fluorine to produce calcium fluoride or fluoridric acid. There is a growing demand for calcium fluoride in the steelmaking and aluminum industries.

Magnetite: Magnetite forms about 1% of the ore and is separated magnetically. It could be kiln-dried to produce iron oxide, currently used in the company's ferro-alloy production.

EMPLOYEES

Satisfactory relations with employees were maintained throughout the year. In the early months of last year, the decrease in demand for columbium products resulted in temporary lay-offs. Most of the employees affected, however, have now been recalled. The agreement with the United Steelworkers of America, which represents the company's employees, is due to expire on November 17, 1972. Every effort will be made to conclude a new contract which will recognize the interest and needs of both parties.

the uses of columbium (NIOBIUM)

The chart appearing on page 9 of this report shows that world consumption of columbium during 1971 continued to grow at a rate of approximately 20% in spite of the worldwide recession in the steel industry which resulted in a reduction of about 6% in non-communist world raw steel production. This surprising performance is attributable to the growing trend to the more general use of ferro-columbium in the production of High-Strength Low-Alloy steels.

The techniques of producing columbium-bearing HSLA steels are now much better known than they were a few years ago and the majority of modern steel plants are equipped with suitable installations for temperature controlled rolling and quenching in order to produce as-rolled low-alloy steels with yield strengths up to 100,000 psi. However, the strongest demand at the moment, is for steels in the range of 50,000 to 80,000 psi. yield in as-rolled condition. This demand comes from steel fabricators who are looking for low-cost steels combining high strength, high ductility and good impact properties in addition to good formability and weldability characteristics.

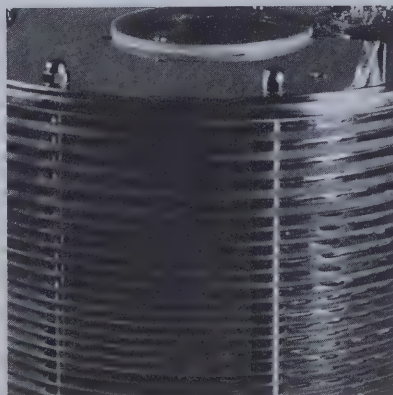
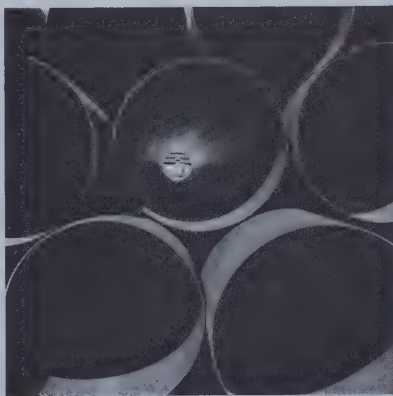
Thus, new fields of application for columbium-bearing steels have opened up beyond the specialty applications such as pure metal, super-alloys and stainless steels which were the main fields of columbium consumption ten to fifteen years ago. These applications account for about 10% of current consumption and are expanding with the increasing use of columbium in high-temperature alloys for jet engines, turbine and rocket engine parts and in super-conductivity applications.

The utilization of ferro-columbium in low-alloy steels represents about 90% of current consumption and is experiencing a very fast growth as a result of a number of technological developments during recent years. Most of these

developments result from basic research carried out by the steel industry in the early 1960's, which are now coming to fruition as processing and design technology is developed to take advantage of the considerable economical benefits of columbium-bearing HSLA steels.

Amongst the most important growth fields of columbium usage the following are prominent illustrations:

Pipelines: Now a well-established market for columbium-bearing steels which are generally accepted as the most economical solution to the production of line pipe of all sizes, especially for high pressure applications under severe weather conditions. The superior welding and impact properties of columbium-bearing steels are vital requirements for these applications. Current world production of steel tubes is estimated at some 50 million metric tons per year, of which about 50% would be suitable for columbium-bearing steels and represent a potential market of about 30 million lbs. of columbium per year.



Structural applications:

Columbium-bearing steels have been used for many years in a number of these applications such as ship plates, railway car parts, water towers, and others. This trend is now spreading to all types of constructional steels for buildings and light structures such as joists and towers. Following the evaluation of these steels by the technical committees of the American Society for Testing Materials (ASTM) and their subsequent issuance of ASTM specification A572, considerable tonnages of these steels will now be specified by many architects and engineers who, without ASTM's approval, were unable to take advantage of the favorable strength/price ratios of these steels. As a result, substantially heightened use of columbium-bearing HSLA steels can be expected in the large volume constructional applications. Major buildings have already been designed and built using these steels in both columns and beams to provide strength with less weight at a substantial reduction in cost. These steels are also being used increasingly in large transmission towers, because of the savings in erection and material costs through the economical use of various strength levels available in columbium-bearing HSLA steels.

The International Copper Research Association has also developed a Cu-Cb low-alloy steel that offers exceptional strength and formability properties combined with excellent ductility and impact properties. These properties which remain uniform across varying sections, offer excellent possibilities for such volume applications as automobile frames and machine parts.

Deep drawing sheets: The interstitial free steel development announced by Armco Steel, a year ago, remained at the trial stage during 1971 but, it is expected that this type of steels will find fast increasing usage, as designers will certainly want to take advantage of the superior deep-drawing properties of these steels.

Bumper stock: Automobile bumpers are getting considerable attention as a result of new safety regulations in the U.S.A. and columbium-bearing steels are becoming one of the preferred bumper steels because they are at the same time ductile, formable and strong without heat treatment and are relatively inexpensive.

These outstanding developments are indicative of the tremendous possibilities of columbium-bearing HSLA steels in all types of structural applications where the fabricators are striving for optimum balance between economy and quality.



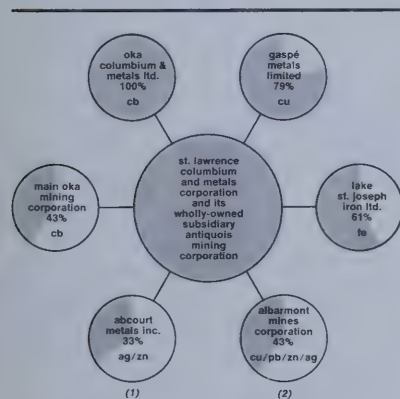
exploration activities, other interests

oka columbium & metals ltd.

main oka mining corporation

We present here a brief report on exploration activities and summary information on affiliated companies, held by St. Lawrence Columbium either directly or indirectly through its subsidiary, Antiquois Mining Corporation. Antiquois is a wholly-owned holding/financing/management vehicle used by St. Lawrence Columbium in respect to most of its exploration activities and interests, other than the Oka columbium properties.

The chart below shows the interest held by the St. Lawrence Columbium group in its major affiliated companies whose activities are described hereinafter.



Authorized Capital: 5,000,000 common shares
Issued: 2,500,007 shares

Oka Columbium & Metals Ltd. holds a property consisting of 815 acres located within the favorable Oka complex and adjoining the 1282-acre property of St. Lawrence Columbium.

Previous diamond drilling outlined a high grade mineralized zone of 600 feet in strike length. It is located 1¼ miles from St. Lawrence Columbium's operating shaft.

Mineralogical and metallurgical tests from diamond drill core were conducted in St. Lawrence Columbium's laboratory and have shown that this material is amenable to the company's current mill processes. Further diamond drilling will be carried out in order to explore this zone at depth and estimate the tonnage of available ore.

Authorized Capital: 3,000,000 common shares
Issued: 2,050,007 shares

Main Oka Mining Corporation, owned 43% by St. Lawrence Columbium, has leased to the latter its 403-acre adjoining property on which 1,000,000 tons of ore grading 0.51% Cb_2O_3 have been drill proven.

Under the terms of the lease, exploitation of any commercial deposit will be carried out on a profit-sharing basis with St. Lawrence Columbium.

As part of a development program preparatory to mining, drifts from the St. Lawrence Columbium mine were extended in the direction of the Main Oka property. At the 1000-ft. level, a further advance of 395 feet was made to a distance of about 200 feet from the Main Oka orebody; at the 500-ft. level, an additional 412 feet was completed. Since the beginning of the current fiscal year, a further 350 feet was done and the wall face is now approximately 450 feet from the orebody.

It is planned to complete these drifts during 1972 and to use them to carry more detailed diamond drilling at the aforementioned levels and also to carry deep diamond drilling from the 1000-ft. level. Later on, these drifts will be used for the development and exploitation of the Main Oka orebody.

Metallurgical tests on the Main Oka ore have shown that St. Lawrence Columbium can produce in its mill a concentrate of equal quality to its own concentrate and with a comparable recovery.

(1) A new company resulting from the amalgamation of Consolidated Pershcourt Mining Ltd. and Abitibi Silver Mining Corporation.

(2) A new company resulting from the amalgamation of Barvallée Mines Limited, Consolidated Monpas Mines Limited and Atlanta Mines Ltd.

lake st. joseph iron ltd.

albarmont mines corporation

Authorized Capital: 5,000,000
common shares
Issued: 1,885,907 shares
Shares listed: Canadian Stock
Exchange

Authorized Capital: 10,000,000
common shares
Issued: 3,333,336 shares

Lake St. Joseph Iron Ltd. is the owner of 73 patented mining claims covering an area about 6.5 miles long and up to 1.5 miles wide, in the Lake St. Joseph district of northwestern Ontario, near the Steep Rock iron deposits. Exploration work has been carried out on this property by a major Canadian steel producer with whom an exploration agreement was reached in 1968.

This work has included geophysical surveys and sampling of trenches. Samples were collected for grade and magnetite determinations as well as for other laboratory test work. The results have confirmed the original estimate made by Lake St. Joseph, of 240,000,000 tons grading 35% iron, available by open pit mining methods.

In March 1970, a series of exploratory metallurgical investigations on samples taken from the deposit were initiated by this steel producer and were pursued through 1971.

Samples were selected and a series of tests were done to evaluate the grinding and the flotation characteristics of the ore. Bench scale testing was made to further assess the ore. It is reported that the overall results of the metallurgical test work carried out to date have been favorable and encouraging.

The steel producer has recently indicated its intention to resume negotiations to ensure that an agreement will be completed in 1972, so that it may proceed on a full scale program to evaluate the potential size and profitability of the deposit.

A new company resulting from the amalgamation of Barvallée Mines Limited, Consolidated Monpas Mines Limited and Atlanta Mines Ltd.

This company owns two copper prospects. The first one, previously the property of Barvallée, adjoins the Vendôme Mines Ltd. orebody and covers 1200 acres in Fiedmont Township, northwestern Quebec. Diamond drilling prior to 1969 outlined two well-mineralized ore lenses containing 200,000 tons grading over 5.2% zinc, 1.2% copper and 1.3 oz. silver per ton.

A feasibility study on the mining of this tonnage in conjunction with that of the adjoining Vendôme mine was completed in 1971 by R. Bruce Graham and Associates Ltd., mining consultants. This study shows that the Vendôme deposit can be mined on a commercial basis jointly with the Barvallée deposit, provided the potential reserve of 300,000 tons in the Barvallée deposit is confirmed by additional diamond drilling.

Furthermore, the 3300 feet between the western end of the Vendôme deposit and the eastern end of the Barvallée deposit represent potential ground for the discovery of additional orebodies. A diamond drilling program is presently under study, to be implemented when the time is opportune.

It is also possible that further metallurgical work to determine the feasibility of producing three separate uni-metal concentrates rather than a mixed copper-lead concentrate, would upgrade the value of the concentrates as well as produce a more salable product.

The second copper prospect, formerly the property of Consolidated Monpas, consists of a total of 6,920 acres and is located in Duverny and Landrienne Townships, northwestern Quebec. This property is being explored jointly with Quebec Mining Exploration Company (SOQUEM), under an agreement dated July 18, 1969.

Under the main features of the agreement, SOQUEM bound itself to spend \$25,000 per year, in exploration work on the property, during the first three years of the agreement (July, 1969 — July, 1972). This has been done and SOQUEM may now hold its option for a further two years by spending \$50,000 per year and Albarmont can maintain its interest provided it spends an equal amount during the latter two-year period.

If and when a total amount of \$275,000 has thus been spent (\$175,000 by SOQUEM and \$100,000 by Albarmont), a new company would be formed to acquire the mining claims for shares of capital stock. The respective ownership interest in this new company will be SOQUEM 47% and Albarmont 53%.

Financing of the new company may be provided by Albarmont and SOQUEM on the basis of their respective interests.

Up to now under the agreement a total of about \$134,000 has been spent on the property. A systematic exploration program was conducted by SOQUEM including an airborne electromagnetic survey, 118 miles of line-cutting and 3500 acres of detailed geological mapping. Systematic geological surveys have been made, followed by detailed surveys where warranted. Several anomalies have been outlined and a diamond drilling program for a total of 4250 feet has been carried out on thirteen of these anomalies.

The first results show the presence of favorable horizons which will be studied in more details and, as warranted, will be further explored by diamond drilling. The exploration program will be carried out during next year, with emphasis on the part of the property where previous diamond drilling has indicated some interesting values in copper, silver and gold.

gaspé metals limited

Authorized Capital: 5,000,000
common shares
Issued: 1,966,009 shares

Gaspé Metals Limited has concluded a joint venture agreement with Anaconda American Brass Ltd., a Canadian subsidiary of The Anaconda Company, for exploration of its 441-acre Holland Township copper prospect, which adjoins the 11,000 tons-per-day Gaspé Copper operation of Noranda Mines Ltd., in the Gaspé Peninsula.

Under the terms of the agreement, Anaconda American Brass had agreed to spend \$50,000 by May, 1971 and another \$100,000 by May, 1972, if warranted by initial exploration and development results.

Up to now, an amount of \$219,000 has been spent on the property by Anaconda and a one year delay, up to May 30, 1973, has been granted to Anaconda in order to implement the proposed exploration program.

Exploration work thus far conducted on the property by Anaconda, consisted of geological mapping, soils geochemistry, magnetic surveys, induced polarization and E.M.-16 surveys. This surface work has confirmed and more precisely defined the favorable Porphyry Brook alteration on the property. This Porphyry Brook alteration zone has been explored by further deep diamond drilling.

Hole S-2 was deepened from 1487 feet to 4497 feet and hole S-4 was spotted 1900 feet south-west of S-2 and drilled to a depth of 4917 feet. In hole S-2, typical Needle Mountain type skarn with sparse mineralization was encountered from 1000 to 3000 feet with identifiable stratigraphy within the skarn. Strong typical skarn and mineralization was encountered from 3000 to 4000 feet with an average copper content of 0.20% copper over this entire thickness. This included inter-sections grading up to 2.04% copper over five feet.

Unfortunately, hole S-2 encountered a major east-west trending fault zone before reaching the favorable C zone which is part of the Cap Bon Ami formation. The silicification and mineralization along the fault zone is described as remobilized post ore mineralization that could have had its source in another lagoon-type Needle Mountain deposit. The rocks intersected by hole S-4 are essentially unaltered and unmineralized, except for very narrow zones.

A program of additional drilling is proposed to explore this C zone horizon in the hanging wall of the fault. A potential area of at least 1000 feet by 3000 feet within the skarn can be reached readily by surface drilling.

A copper bearing Needle Mountain lagoon within this area is indeed a reasonable exploration target and each ten feet of thickness of ore in a lagoon of these dimensions would represent 3,000,000 tons of ore. The thicknesses at Needle Mountain are in the order of 100 to 150 feet. The proposed exploration involves an additional two holes or approximately 10,000 feet of diamond drilling.

If exploration and development progress satisfactorily, the agreement also calls for joint financing of a \$4,500,000 mining venture or a new company. As consideration for transfer of its Holland Township property, Gaspé Metals will receive a 10% interest in the joint venture or the new company and will be entitled to provide up to 40% of the \$4,500,000 required to finance the new company, in which Gaspé Metals would thus hold 46% interest and Anaconda 54% interest.

abcourt metals inc.

Authorized Capital: 5,000,000
common shares
Issued: 1,072,194 shares
Shares listed: Canadian Stock
Exchange

Abcourt Metals Inc., resulting from the amalgamation of Consolidated Pershcourt Mining Ltd. and Abitibi Silver Mining Corporation, now holds two adjoining silver/zinc properties, covering 800 and 3000 acres respectively, in Barraute Township, near Val d'Or, northwestern Quebec.

Diamond drilling on the Pershcourt property has outlined a mineralized zone which extends into the Abitibi property. Reserves were estimated in 1969 by G.H. Dumont, Eng., consulting engineer, at 4,038,144 tons of indicated ore, averaging 2.39 oz. silver per ton and 2.45% zinc. Drilling on the Abitibi property has been concentrated on the extension of the Pershcourt mineralized zone and reserves were estimated in 1969, at 1,756,674 tons of indicated ore, grading 3.35 oz. silver per ton and 1.91% zinc.

Pursuant to an agreement dated October 1, 1970, with Canadian Jamieson Mines Limited, a comprehensive review of previous work on the properties was carried out by Watts, Griffis & McQuat Limited, consulting geologists, and additional work was performed at a cost of \$48,000. A report, dated December, 1971, was delivered to Abcourt and Canadian Jamieson. The report, based in part on the results of the additional work, recommended further metallurgical tests and diamond drilling.

The agreement also provided that, if warranted by results of the aforementioned review, Canadian Jamieson would undertake a production feasibility study at an estimated cost of \$50,000 to be completed not later than May 1, 1972. This was not done and therefore the agreement has lapsed.

(Continued on next page)

anaconda iron ore (ontario) limited

paska-kowkash iron properties

Consideration is now being given by Abcourt to implement the recommended work — including further metallurgical tests and diamond drilling — when the price of silver has improved and stabilized at a level which would permit exploitation of the properties on a commercial basis.

St. Lawrence Columbium owns 60,000 shares of Anaconda Iron Ore, representing 2% of the issued shares. This iron ore property is located in the Skibi Lake area of Ontario, approximately 140 miles north of Lake Superior.

In anticipation of bringing the property into production, Anaconda has done diamond drilling, has built an access road and a pilot plant and has carried out a great deal of the preliminary work. Concentrates produced from large open pit orebodies will yield excellent blast furnace and open hearth pellets, with very high iron content and extremely low residuals.

St. Lawrence Columbium owns a total of 41 patented claims, located in Paska and Kowkash Townships, northwestern Ontario, totalling 1640 acres and on which two magnetite deposits, grading over 25% iron and minable by open pit methods, have been located. These claims are near the Bralorne Can-Fer Resources Limited deposit which is under lease to The Algoma Steel Corporation Limited.

[REDACTED]

This report is not intended to be a solicitation or an offer to buy or sell shares of the Company and is issued only for the purpose of keeping its shareholders informed.

All technical information is based on published sources as well as other sources which the Company considers to be reliable.

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